EVALUATING THE NEED OF A SPECIALIZED DISASTER PREPAREDNESS PLAN FOR BONITA FIRE DEPARTMENT

EXECUTIVE ANALYSIS OF FIRE SERVICES OPERATIONS IN EMERGENCY MANAGEMENT

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Abstract

The Bonita Fire Department has never had a disaster preparedness plan specifically unique for the community it serves. The County of San Diego has a disaster preparedness plan for 3 million plus residents, and Bonita Fire Department had adopted this as its disaster preparedness plan.

The problem to be researched was to evaluate if the current disaster plan overlooked any potential risks unique for the community of Bonita. The purpose of this project was to provide a unique disaster preparedness manual specifically for Bonita Fire Department after comparing the existing emergency disaster plan of Bonita with other emergency service organizations.

The evaluative research method was used for this applied research project and the questions answered were:

- 1. What potential disaster risks should be assessed and planned for in the jurisdiction covered by Bonita Fire Department?
- 2. Does the present disaster preparedness plan for Bonita Fire Department overlook any anticipated needs recommended by Standard 1600 Disaster Management, from the National Fire Protection Association?
- 3. Should Bonita Fire Department have a specialized, unique-for-the-community, disaster preparedness plan?
- 4. Should the community of Bonita have citizens trained for disasters to assist Bonita Fire Department and what programs are available for citizen disaster training?

A basis was set by the criteria required from Standard 1600 from the National Fire Protection Association (NFPA); preparedness, response, mitigation, and recovery.

Literature reviewed focused on whether disaster or planning officials had incorporated these actions within their disaster manuals.

The 63 San Diego County fire departments were surveyed and questioned on their disaster preparedness manuals. Disaster manuals from 29 other fire service organizations outside California were requested for comparison with Bonita's preparedness plan.

Risk assessment evaluations were made for Bonita, disaster potentials identified, and based on the probability of occurrence, several risks were identified. The County of San Diego Preparedness plan was studied, researched, and compared with disaster manuals received from other agencies with similar risks. Most of these manuals thoroughly addressed potential disaster risks and included those that Bonita Fire Department could encounter. Nevertheless, when reviewed and compared to others, the disaster preparedness manual used by Bonita Fire Department was far superior in the 4 areas recommended by NFPA 1600.

The results showed that no changes or modification could have been made to the existing disaster preparedness plan for Bonita Fire Department. The County of San Diego, Office of Disaster Preparedness had done an outstanding job in disaster planning which incorporated preparedness, response, mitigation, and recovery. The County disaster manual identified every potential disaster risk for Bonita.

It was recommended that any Bonita personnel that had occasion to use the Emergency Disaster Manual attend a review or refresher class, since the scope and magnitude was overwhelming upon first inspection. Citizen volunteer groups were found very useful to supplement emergency workers. The citizen training programs would be taught by Bonita firefighters, providing an increased local resource of disaster workers and instilling renewed pride within the community of Bonita. This would be the final and most important recommendation to be implemented.

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Introduction

The unincorporated community of Bonita is located 15 miles south of San Diego, California. The 15,000 residents of mainly single family dwellings are situated in, and adjacent to, the Sweetwater River valley. Incorporated into a fire protection District in 1953, the 15 personnel making up the Bonita Fire Department respond to approximately 1,000 calls a year. The majority of emergency responses are medical in nature; fires, rescues, public assistance, false alarms, and hazardous condition calls make up the remaining routine activities.

The Bonita Fire Department has never had a specific disaster plan unique for the community it serves. The County of San Diego, with a population of 3 million, has a countywide disaster preparedness plan formalized by the Office of Disaster Preparedness (ODP) and Bonita Fire Department has adopted this plan. This lack of a specific disaster preparedness plan for Bonita, and its unique needs, is the problem that will be researched and studied for this project.

The purpose of this report is to identify the potential disaster risks that historically have been specifically related to the community of Bonita. Following identification of these risks, an assessment will be made prioritizing and determining the capability of mitigating and minimizing the risks should they occur. A Bonita Disaster Preparedness plan will then be prepared according to the research that justifies the need for one. The disaster plan for Bonita must compliment the master San Diego County plan prepared by the ODP to avoid redundancy. This plan should be more specific than the County plan in addressing the responsibilities and concerns of Bonita Fire Department and its citizens. The final goal, based on the research for this paper, would be to develop a customized

'Disaster Preparedness' plan for the community of Bonita. The completed plan is to be presented to the Chief for his review, critique, approval, and implementation.

The methodology used is evaluative, and the primary questions answered for this applied research project are:

- 1. What potential disaster risks should be assessed and planned for in the jurisdiction covered by Bonita Fire Department?
- 2. Does the present disaster preparedness plan for Bonita Fire Department overlook any anticipated needs recommended by Standard 1600 Disaster Management, from the National Fire Protection Association?
- 3. Should Bonita Fire Department have a specialized, unique-for-the-community, disaster preparedness plan?
- 4. Should the community of Bonita have citizens trained for disasters to assist Bonita Fire Department and what programs are available for citizen disaster training?

The risk assessment evaluation and questions stated above emerge from the Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) course recently taken at the National Fire Academy. A portion of the National Fire Academy instruction conducted a community risk assessment that required identification and assessment of critical hazards and vulnerabilities to communities. Since Bonita Fire Department does not have a unique disaster preparedness plan, and has never done an in house community risk assessment, this topic has been chosen as an applied research project for the Executive Fire Officer Program.

Background and Significance

The semi-rural community of Bonita is exposed to many hazards, all of which have the potential for disrupting the community, causing damage, and creating casualties. Possible natural hazards include earthquakes, floods, wildland fires, landslides, hurricanes, tropical storms and freezes. Man-made disasters could develop from hazardous material incidents, conflagration, water or air pollution, major transportation accidents, water, gas or energy shortages, nuclear power plant accidents, terrorism or civil disorder. San Diego County is also home base for Naval Air Station North Island, Western Pacific Naval Fleet, Naval Submarine Station Point Loma, Camp Pendleton Marine Training Base, and Marine Air Station Miramar. This makes the threat of war-related incidents possible, such as a nuclear, biochemical or conventional attack.

The community is situated along the Sweetwater River whose flow is controlled by the Sweetwater Dam, maximum capacity of 27,689 acre-feet (9 billion gallons of water). The Sweetwater River flows 9½ miles through Bonita before emptying into a rock-lined flood channel leading to the San Diego Bay, presenting serious flood potential. *Rain Storms/Flooding*

Prior to 1959, flooding in San Diego County was documented as occurring every 10.4 years since 1862. After 1959, flooding occurred every 4.2 years (San Diego Flood Control, 1997). Major to moderate flooding significantly affected Bonita during the winters of 1978, 1979, and 1980 when El Niño storms brought twice the normal rainfall. Water released from Sweetwater Dam has periodically flooded the Bonita/Sweetwater Valley (Remley, 1980). On the following page, Table 1 shows peak discharge rates by Sweetwater Dam authorities between 1938 through 1996. These releases have always

affected Bonita with flooded roads and increased water related emergencies (Wake, 1998).

Table 1

Peak Discharge Rates at Sweetwater Dam 1938-1996

Date	Peak Flow (cubic feet per second)
February 18, 1938	3,710
April 8, 1941	3,000
March 18 through July 2, 1979	1,200
February 8 through July 17, 1980	6,700
March 9 through July 14, 1983	2,384
January 24 through July 2, 1993	2,077
March 4 through July 6, 1995	1,044

The wettest January ever recorded in Bonita occurred in 1993 when 9.6 inches of rain fell, normal being 2 inches or less. One area in Bonita was closed when water rose 3 feet during a 45-minute period, resulting in the flooding or water damage of 20 houses. Temporary sheltering was available from the Red Cross to those homeowners affected by the flooding. Some local roads were closed for 3 months due to flood caused damage (Yokley, 1998).

During these flooding incidences a number of river rescues occurred, none of which resulted in loss of life. Many vehicles attempted to cross low-laying, swift flowing water areas in Bonita, only to stall and need fire department assistance. During these rain related events, the only additional help needed was automatic aid units from surrounding agencies.

Earthquakes

San Diego County has at least 12 known earthquake faults capable of magnitude 7 or greater. Bonita has 2 faults, the Sweetwater and La Nacíon, that run adjacent to, and directly under the community. Although there has been no major movement from these

faults for over 100 years, the nearby Coronado, Rose Canyon, and Silver Strand faults have had earthquakes of magnitude 3.0 to 6.8 thirty-three times since 1941 (Appendix A). These faults are only 20 to 50 miles from Bonita and the Sweetwater Dam. Officials would like to avoid the unthinkable scenario that occurred to the Lower San Fernando Valley Dam in 1971. A magnitude 6.1 earthquake struck and caused 30 feet of the top portion of the dam to slide away. Fortunately, the dam maintained its integrity until the water levels could be lowered. The positive results of this near catastrophe caused the California State Legislature to enact the Dam Safety Act of 1972, which initiated new standards for dam engineering and safety inspections (Joint Committee, 1972).

Dam Failure

The failure of the Sweetwater Dam, at a time when the reservoir approaches its holding capacity, would inundate the entire 9½mile flood plain from the dam to the San Diego Bay in approximately 2 hours. This flooding would affect the cities of Bonita, Chula Vista and National City with combined populations of over 250,000. About 15 minutes after dam failure, the Bonita Fire Station would be flooded, 5 to 10 minutes later, the business district and a retirement convalescent home with 300 residents would be affected, plus several hundred residential and business structures (Sorensen, 1980). The entire Bonita Valley area would be confronted with serious floodwaters after about 75 minutes.

Hazardous Materials

Bonita Fire Department has 4 major transportation routes that carry 175,000 to 180,000 vehicles per day (SANDAG, 1996). This includes an 8-lane interstate, a 6-lane state highway, and two 4-lane county roads. With this large volume of traffic, the

potential for a hazardous materials incident cannot be ignored. Fortunately, the safety record for hazardous material carriers in San Diego is outstanding. The only hazardous materials spills that have occurred in the Bonita area for the past 20 years have been passenger vehicles. The product released was gasoline from fuel tanks damaged from collisions with another vehicle.

From the risks listed above, those with significant potential for loss of life and/or property within the jurisdiction of Bonita Fire Department are floods, earthquakes, storms, hazardous material spills, and nuclear releases. According to historical documents, floods, wind/rain storms, and earthquakes have the greatest affect upon the citizens and topography of Bonita (Trook, 1988).

Literature Review

The National Fire Protection Association (NFPA) has recommended standards for the fire service. The NFPA 1995 Edition, Standard 1600, gives the recommended practice for Disaster Management. It simply states: "This recommended practice establishes minimum criteria for disaster management for the private and public sectors in the development of a program for effective disaster mitigation, preparedness, response, and recovery." These 4 disaster criteria; mitigation, preparedness, response, and recovery, were the focal points searched. By comparing practices and procedures from other emergency service departments, and how disasters affected other cities, evaluations could be made to the Bonita Fire Department disaster preparedness plan.

Disaster manuals from other emergency service departments were reviewed and compared with the San Diego County ODP Disaster Manual that Bonita Fire Department currently uses. Noted also for comparison, whether or not other agencies had, and

activated, an Emergency Operations Center (EOC), and at what point during a disaster would the EOC be used.

Cities and fire departments outside California mainly followed NFPA guidelines as set forth in Standard 1600. The main thrust in all the manuals was identifying potential hazards, risks, or disasters that would harm life and/or property then identifying resources to mitigate the events. They could not match the scope and sequence of planning that the County of San Diego, Office of Disaster Preparedness Manual had accomplished. The Table of Contents from the ODP Plan illustrates the magnitude of preparation needed to meet the potential disaster risks in San Diego County with a population of over 3 million (Appendix B). The Table of Contents lists the 15 annexes/operation plans (A through O) for resources to call upon as the levels of readiness or need increases. The annexes assist the Emergency Operations Center to supply the emergency personnel in the operational disaster area with required resources. If the operational area needs sandbags, sand, heavy equipment, etc., the EOC has a prepared listing for the requested resources.

There are 3 levels of emergency preparedness, or readiness, built into the San Diego ODP Disaster manual. As the emergency escalates, the need for greater amounts of outside help increases. The 3 levels of preparedness are:

- Level I: a minor to moderate incident wherein local resources are adequate and available. A LOCAL EMERGENCY may or may not be proclaimed.
- Level II: a moderate to severe emergency wherein local resources are not adequate and mutual aid may be required on a regional or even statewide basis. A

LOCAL EMERGENCY will be proclaimed and a STATE OF EMERGENCY might be proclaimed.

➤ Level III: a major disaster wherein resources in or near the impacted area are overwhelmed and extensive state and/or federal resources are required. A LOCAL EMERGENCY and a STATE OF EMERGENCY will be proclaimed and a PRESIDENTIAL DECLARATION OF EMERGENCY or MAJOR DISASTER will be requested (Eberle, 1996).

In addition to the annexes/operation plans, there are four stand-alone (site or area specific) emergency plans that are referenced within some of the above mention annexes.

These plans are: 1) San Diego County Nuclear Power Station Emergency Response

Plan; 2) San Diego County Operational Oil Spill Contingency Element of the Area

Hazardous Materials Plan; 3) San Diego Operational Area Emergency Water

Contingencies Plan; and 4) Unified San Diego County Emergency Services Organization

Operational Area Emergency Energy Shortage Response Plan (Eberle, 1996).

The El Niño Effect is another factor being considered for this research paper.

The El Niño Effect refers to a rapid, dramatic warming of the sea-surface temperatures in the eastern tropical Pacific, mainly along the north-central coast of South America and westward. The water temperature normally increases about 4°F from October through December in these areas. When the water temperature increases 11°F, as it has this year, the El Niño weather patterns take affect. This is enough to warm the atmosphere and dramatically change the wind patterns that bring successive rain bearing storm patterns to the western North American continent during the winter and spring. The warmer winters,

along with the spring flooding in the central United States, have been attributed to the changed weather patterns also caused by the El Niño (Monteverdi and Null, 1997).

Literature was reviewed that pertained to pre-flood preparedness, post-flood mitigation, mass care centers and temporary sheltering. Information related to homeowners on cleaning, supplies needed, water purification processes, sanitation precautions, utilities safety, and other relative post-flood information was also reviewed. North Dakota State University publishes information from sandbag to septic tank protection (Anderson, 1997).

Alameda County Mental Health Services in cooperation with the Federal Emergency Management Agency (FEMA) has booklets available for helping young children understand disasters (Fernandez, 1991). Floodproofing techniques and books to reduce structural losses in high hazard flood areas are also available to emergency managers from FEMA (FEMA, 1987). The Emergency Management Institute has training for city officials in disaster management. This training, held at the National Fire Academy in Emmitsburg, Maryland, can be from 3 days to 2 weeks in length (EMI, 1997).

California has the reputation as the State that is ready to fall into the Pacific Ocean at any moment because of continual earthquake activity. The strongest California earthquake was the 1906 San Francisco earthquake measuring magnitude 8.3 on the Richter Scale, which killed 700 people. More recently, the Northridge earthquake (M6.8) on January 17, 1994 killed 72 people with more than 11,846 injuries; damage estimates were over \$25 billion (OES, 1995). This earthquake was caused by a previously unknown fault and seismologists were baffled as to why this fault could have gone

unknown for so long. The dramatic Loma Prieta earthquake (M6.9) on October 17, 1989 caused \$6.8 billion in damages and was seen by millions as the televised World Series was about to begin in San Francisco. This 20-second earthquake killed 63 (mostly from the collapse of the dual-level 880 Interstate freeway) and injured almost 4,000 citizens (EQE International, 1998).

Earthquake power can be measured on 2 different rating scales, the Richter Scale and the Mercalli Scale. Table 2 gives the Richter Scale rating for the force and damage earthquakes have the potential to cause; the Mercalli Scale uses a differenct numbering system, but the end results are the same (Pidwirny, 1997).

Table 2

Magnitude/Richter Scale	Force	Comment
3.0	Slight	Resembling vibrations caused By heavy motor traffic
4.0	Moderate/Rather Strong	Felt by people standing; rocking of free standing objects; sleeper awakened; bells ring.
5.0	Strong/Very Strong	Trees sway, some damage from overturning and falling objects; general panic, cracking of walls.
6.0	Destructive/Ruinous	Chimneys fall and there is some damage to buildings; ground begins to crack; houses begin to collapse and pipes break
7.0	Disastrous/Very Disastrous	Ground badly cracked and many buildings are destroyed; landslides occur.
8.0	Catastrophic	Ground begins to crack and many buildings are destroyed. There are some landslides; total destruction; objects are thrown into the air, much heavy shaking and distortion of the ground.

Hazardous material releases can and do occur in earthquakes (ABAG, 1990). The California Uniform Building Code, in conjunction with the California Uniform Fire Code and California State Fire Marshal, has mandated earthquake construction standards to reduce these risks (UBC, 1994). Preventative measures can be taken according to a report published by the Association of Bay Area Governments. They suggest that businesses learn from history; designing changes to safeguard from spills or releases, implementing employee training and education programs, engineering earthquake resistant containers, and following the State of California Hazardous Materials Contingency Plan (Perkins and Wyatt, 1990).

Should an earthquake damage San Diego, or any of the surrounding communities, contingency housing and mass care centers have been designated and staffing prepared by ODP in cooperation with the American Red Cross (ARC, 1993). The American Red Cross will be involved in any disaster within San Diego County and has a formalized Memorandum of Understanding with the County of San Diego.

Nuclear power stations around the world have been studied following earthquakes. Japanese nuclear power stations experienced no damage from 3 serious earthquakes in 1993, 1994, and 1995. An earthquake of magnitude 7.8 struck Hokkaido July 1993; northern Japan had a M7.8 in December 1994; and on January 17, 1995, Awaji Island near Japan experienced a M7.2 earthquake. Not one of Japan's three nuclear power stations located within 75 miles of the earthquake sustained any damage. Two research reactors in Osaka and Kyoto, Japan, were also reported to have been unaffected by these earthquakes. The powerful Russian earthquake, M7.8 in Armenia

which killed 25,000, had no damaging effect on 2 nuclear power stations located 50 miles from the epicenter (NEI, 1995).

Closer to home, the San Onofre Nuclear Power Plant is located 85 miles north of Bonita. The Northridge earthquake in January 1994 with a M6.8, was only 75 miles away. This earthquake was felt substantially at the San Onofre facility and in Bonita, but the reactor continued to operate and immediate follow-up inspections revealed no damage (Wald, 1997). The safety record for nuclear power generating stations in the United States has been outstanding. There has been only 1 major nuclear accident in the United States, Three Mile Island in Harrisburg, Pennsylvania. This occurred March 26, 1979 and there was no radiation released to the atmosphere, although the interior of the containment building was severely damaged (USNRC, 1995). The possibility of a radiation release from San Onofre is almost zero with the safety regulations and built-in shut down procedures in effect.

To affect the San Diego area with radiation from San Onofre, the prevailing winds must be influenced by a seasonal easterly wind known as a Santa Ana. These winds, caused by a high-pressure system over the western states, occur from October through December, sending 40 to 50 miles per hour wind gusts throughout southern California.

The San Diego Bay, approximately 6 miles from Bonita, is home to the Western Pacific Naval Fleet. On any day in San Diego, there are at least 10 nuclear powered ships, both surface vessels and submarines. Although Navy officials have not publicized any reported nuclear releases or accidents, that does not mean they have not occurred or that mitigation pre-planning has been ignored. A check with city and county hazardous materials officials revealed a disturbing lack of communication between Federal officials

and civilians regarding nuclear accident mitigation and planning. The mitigation responsibilities are placed solely upon the Federal government for nuclear incident information.

Sam Whitaker, a civilian employed by the Navy, oversees the Disaster

Preparedness and Public Affairs for all west coast naval bases. He stated via telephone
that the Navy is in the process of re-writing disaster preparedness policy. Presently

Bremerton Naval Station in Bremerton, Washington, handles all the nuclear accident
mitigation or investigation. There is a concern that if a nuclear mitigation team were
standing by, ready to fly, it would still take hours to arrive in San Diego to mitigate a
release. Therefore, Mr. Whitaker said, "The West Coast Pacific Fleet officials are
working, as we speak, on site-specific investigation and mitigation teams regarding
nuclear incidents for each Naval base on the West coast. This plan should be operational
in the spring of 1998. This plan will include civilian emergency management teams"
(Whitaker, Sam, telephone interview, December 20, 1997).

Special attention was given to articles and information related to El Niño and its impact on Southern California weather patterns. John Monteverdi, Professor of Meteorology at San Francisco State University, and Jan Null, Lead Forecaster for the National Weather Service Forecast Office in the San Francisco Bay area say, "If the present El Niño persists through the winter, it is reasonable to expect greater than normal precipitation. Also, if the present El Niño persists through the winter, it is reasonable to prepare for much heavier than normal precipitation." They also forecast that although the increased ocean water temperature associated with El Niño is predicted to decrease slightly by March 1998, apparently it will persist through the spring, possibly bringing

increased amounts of precipitation. California is currently experiencing successive El Niño driven storms that have caused 17 California counties to be inundated with 14 inches to 18 inches of rain within a 10 day period. Governor Pete Wilson requested these affected counties be declared federal disaster areas, and President Clinton so declared on February 9, 1998 (Cappella, 1998).

The California Incident Commander System (ICS) along with the newly implemented Standardized Emergency Management System (SEMS) were reviewed.

These 2 emergency management techniques are used exclusively in the San Diego ODP Disaster Plan and throughout California.

When North and Central California were inundated with 30 inches of rain during a 3-day El Niño storm January 1 – 3, 1997, SEMS was used. The rains caused the worst flooding in California's history. The New Year's floods forced more than 130,000 people from their homes. Over 55,000 people were housed in 107 shelters. Over 30,000 homes and 2,000 businesses were destroyed or damaged. Flood damage estimates were placed at nearly \$2 billion. Water reservoirs in San Diego County, Sweetwater Dam included, have decreased their water capacity 60% in anticipation of increased rainfall from the El Niño Effect this year (Brooks, 1998).

SEMS incorporates the management concepts and structure of ICS and California's mutual aid response structure. The ICS provides the basic principles of standardized procedures and terminology, a command and staff structure, manageable span of control, and an action planning process that identifies overall incident response strategies. The state's mutual aid system provides SEMS with the overall operational relationship and framework between levels of government and responding agencies. The

2 systems have been blended (Appendix G) to form a coordinated system that integrates planning, organizations, communications and resources at local, regional, statewide, and where necessary, federal levels to maximize the response to any disaster (Sutkus & Weaver, 1997).

Research found that in most disaster situations emergency personnel and resources are depleted, exhausted, or unavailable in a very short amount of time. Training for citizen volunteer groups has been organized through the Emergency Management Institute (EMI), Federal Emergency Management Agency (FEMA) and the American Red Cross. Los Angeles City Fire Department has been using the FEMA program, Community Emergency Response Team (CERT), for over 10 years. Los Angeles Fire Captain John "Mike" Rojas, coordinator for the CERT program said, "We have trained over 10,000 people in the last 10 years and the CERT program is the best public relations tool we've ever had" (Rojas, John M., telephone interview, October 2, 1997). The 17½ hour CERT program trains civilian volunteers to assist emergency disaster workers in the areas of disaster preparedness, disaster fire suppression, disaster medical operations, light search & rescue operations, and disaster psychology & team organization. The purpose of CERT is to provide private citizens with the basic skills that they will need to handle virtually all of their own needs and then to respond to the needs of their communities in the aftermath of a disaster (EMI, 1994).

The American Red Cross has a citizen volunteer program called San Diego Action Plan (SNAP). The purpose of the SNAP program is to educate and train neighborhoods how to prepare for and respond to an earthquake. The areas covered by the training are communications, damage assessment, first aid, safety/security, light

search and rescue, and care/sheltering. In case of a major earthquake, emergency services could be delayed for 72 hours or more. It would be neighbor helping neighbor through the first stages of the crisis. The American Red Cross program primarily targets all residential areas (rural and urban) within the neighborhood (ARC, 1998).

Since 1989 California has had an Earthquake Survival Program (ESP). The ESP campaign has focused on simple actions individuals and families can take to increase their preparedness for earthquakes. The slogan for the 1997 ESP campaign was 'Ready To Ride It Out?'. Monthly themes for neighborhood meetings include meeting your neighbors, inventory of community resources, developing response teams, updating emergency supplies, or reducing neighborhood hazards (OES, 1997).

Disaster insurance was found available to property and homeowners in California. National Flood Insurance Program information is provided from the Unified San Diego Emergency Services Organization, OES, and FEMA. Interested persons are provided toll-free telephone numbers for insurance carriers. This program is part of FEMA and although insurance carriers are listed, FEMA in no way supports or endorses the names provided. Information about whether a person lives in a flood zone is easily found through local telephone numbers (UDC, 1997).

Earthquake insurance information can be requested through the California Office of Emergency Services. The California legislature required insurance providers to make earthquake insurance available to property owners in 1995. The insured property owner usually has a 10% assessed property value deductible, and the insurance is only on the structure, no personal property is covered.

Other assistance programs available to local or state government agencies are FEMA-OES Infrastructure (Public) Assistance program. This program ensures the reimbursement of funds for the rebuilding of state and local government facilities, educational institutions and private nonprofit hospitals. The Public Assistance program is administered by the State of California and is 90% federally funded and 10% state funded (OES, 1997). The Individual and Family Grant Program (IFG) handles serious disaster related needs unmet by other programs such as essential home repairs, replacement of personal property and transportation. IFG is 75% federally funded and 25% state funded (OES, 1996).

The California Office of Emergency Services (OES) has many programs for disaster assistance. The local telephone number for disaster information in San Diego County is (619) 694-2514.

Procedures

In the Executive Analysis of Fire Services Operations in Emergency Management (EAFSOEM) course, the topics of Sections 5 and 7 were Community Risk Assessment and Capabilities Assessment, respectively. This methodology study was applied to the Bonita Fire District. This type of evaluation has never been attempted by any individuals at Bonita Fire Department during the past 23 years.

Literature related to risk assessment, disasters, mitigation procedures, and preplanning were sought at the Federal Emergency Management Agency (FEMA), Emergency Management Institute (EMI), and in the Learning Resource Center, all of which are on the campus of the National Fire Academy. A survey taken by mail or telephone of all 63 fire departments in San Diego
County in order to learn what type of disaster plans were being followed, if any. For
unincorporated county fire departments like Bonita, the only choice was the County of
San Diego, Office of Disaster Preparedness (ODP) Master Planning Guide for Disasters.
Cities within San Diego County could accept the ODP Disaster Guide or make their own,
unique to their community. Charter cities in the State of California are mandated by state
constitutional law to have their own disaster preparedness plan. These city departments
were questioned further if they used the ODP format, so as not to conflict with policies
and procedures pre-established for other fire agencies in San Diego County. All disaster
plans in San Diego County, whether county or city departments, followed the master plan
format from ODP for consistency, coordination for resources, and elimination of
redundancy. The results of the San Diego County fire department survey are shown in
Table 3.

Table 3
Survey of 63 San Diego County Fire Departments for Disaster Planning Manual

Does your department have a unique	
disaster plan specific to the needs of	No - 46
your community?	Yes – 17
If NO – What makes your disaster plan	San Diego County plan – 46
unique for the community?	City 'risks' specific plan - 17
If YES – How did you assess and	
formulate the plan?	City Manager and Fire Staff – 17
What caused your city or department to make a specific disaster plan unique to your community?	NFPA Standard 1600 – 2 Charter City Law Mandate - 15

The 17 San Diego County fire agencies that had their own unique disaster planning guide were contacted by form letter or telephone, along with 12 other fire

agencies outside California, copies of their disaster preparedness manuals were requested for comparison purposes. Twelve manuals out of 29 requested were received, as well as phone calls or letters from 10 other fire departments, for a total of 22 responses. Those who could not send their department disaster manuals had various reasons. Some said their manuals were too large to send, department policy did not allow, or no floppy disk copy was available. Basic questions from Table 2 were used for those who were out of state and were unable to send copies of their manuals. They were evenly split on having their own disaster plans and adopting the county or state guidelines for disaster preparedness.

A Community Risk Assessment chart for Bonita was used from the Student Manual in the EAFSOEM course (Appendix C). This chart focused on many natural and man-made disasters that could affect any community worldwide. From the Community Risk Assessment chart, disasters were identified that could occur in Bonita and listed in the Disaster Identification Matrix (Appendix D). This chart identified which disasters were unlikely, possible, or likely to occur and how many of the population in Bonita would be affected. Based on the probability of occurrence, a Disaster Vulnerability Matrix was made giving a numerical value to the probability of occurrences, how vulnerable the community would be, and assessing the risk by multiplying the 2 variables (Appendix E).

This process reduced the number of disasters that were likely to occur in the community of Bonita, and the strategy for identifying the processes for pre-planning, response, mitigation, and recovery could begin.

The predominant identified risks facing Bonita Fire Department were flooding or earthquake as major threats; dam failure, hazardous materials spills and nuclear releases were identified as less likely threats. Since flooding could be controlled somewhat by water released from the Sweetwater Dam, the authorities from Sweetwater Dam were contacted. The Operational Evacuation Plan was supplied by Sweetwater Authority which gave statistics and information for down stream evacuation procedures should flooding or imminent dam failure occur (Appendix F).

The Unified San Diego County Emergency Services Organization Operational Area Emergency Plan from ODP, which is 487 pages in length, was reviewed or studied page-by-page. The plan coverage included all the potential risks the community of Bonita and the Bonita Fire Department could anticipate. Attachment A within the ODP plan listed specific hazards identified for San Diego County; earthquakes with faults identified and their history, damage scenarios were given for structures, highways/roads, and utilities. Hazardous substance emergencies for a wide range of events were listed, including fixed facilities (nuclear, biological, chemical, electronic), and abandoned wastes product mitigation. Imminent flooding areas were identified along with county rivers and dams. The history of flooding with vital statistics for dam construction type and water storage capacities was reviewed. Emergency evacuation was addressed with detailed routes, and police being dispatched and placed in strategic locations. Terrorism, conflagrations, tsunamis/coastal storms, and drought have planning sections. Section IX in the San Diego County ODP plan is totally devoted to the San Onofre Nuclear Generating Station (SONGS) (Eberle, 1996).

Results

The results from the data gathered have answered or addressed the following questions asked at the beginning of this project.

1. What potential disaster risks should be assessed and planned for in the jurisdiction protected by Bonita Fire Department?

The disaster risks identified for the community of Bonita were flooding, earthquakes, dam failure, hazardous materials incidents, and nuclear releases. The results of the research found flooding and the threat of earthquakes to be the predominant disaster risks. Flooding can be anticipated almost every year whether an El Niño brings abnormal rain or not. Bonita Fire Department has increased the number of sandbags when increased amounts of rain are forecast. County public works will bring sand to the fire station for citizen use. Any materials or equipment can be requested through 24-hour emergency numbers listed in the San Diego County ODP Disaster Manual.

Bonita Fire Department has recently purchased additional swift water rescue equipment. New floatation vests, throw-bags, and helmets are now available to assist the San Diego City lifeguards if a river rescue is needed in the Bonita area.

Although the threat of earthquake is ever present, it has not seriously affected Bonita for over 100 years. The La Nacíon and Sweetwater faults were found to run through Bonita and have a potential of magnitude 7 or greater. A public education program through the Governor's Office of Emergency Services called 'Ready To Ride It Out?' is available for public distribution. These materials can be printed in newspapers, given as public service announcements, or discussed at civic meetings.

The Sweetwater Dam is 110 years old and yet remains structurally sound. Daily inspections by local dam operators and annual inspections by State Dam Safety

Inspection Teams provide safeguarding for Sweetwater Dam integrity. The dam failure evacuation plan for Sweetwater Dam compliments the ODP plan as an area specific (Bonita) emergency notification plan.

2. Does the present disaster preparedness plan for Bonita Fire Department overlook any anticipated needs recommended by Standard 1600 Disaster Management, from the National Fire Protection Association?

The fundamental criteria for disasters was identified in NFPA 1600 as mitigation, preparedness, response, and recovery. The San Diego ODP Disaster Preparedness Plan adopted by Bonita Fire Department does identify and address the anticipated disaster risks recommended by NFPD 1600. It should be remembered that the NFPA standard presents minimum guidelines for disaster management. The San Diego ODP plan is very extensive in scope and thorough in planning, but overlooked was citizen volunteer groups to assist initially or when normal resources and mutual aid has been depleted. This topic is discussed further in answer to question number 4.

3. Should Bonita Fire Department have a specialized, unique-for-thecommunity, disaster preparedness plan?

Following study, research, and comparing other fire department disaster preparedness plans, Bonita Fire Department should definitely not have a specialized, unique-for-the-community disaster preparedness plan. The risk assessment table, disaster identification matrix, and the disaster vulnerability matrix identified which risks could be anticipated to adversely impact Bonita. Each disaster risk for Bonita was identified and

histories of the risks were documented by the San Diego County ODP plan. The basic criteria from NFPA 1600 was included; preparedness for each disaster was discussed, what resources would respond for quick or long term mitigation, and how recovery from the disaster can be accomplished from a list of local, state, and federal agencies. Any attempt to add or modify would only duplicate or make redundant what many experts and professionals have spent years organizing and implementing.

4. Should the community of Bonita have citizens trained for disasters to assist
Bonita Fire Department and what programs are available for citizen disaster
training?

Several good programs for training citizens to assist Bonita Fire Department and emergency workers were found. From the literature reviewed it was apparent that emergency crews, cities, and towns faced with impending disaster, or on-going disaster, were quickly overwhelmed, exhausted, or lacked enough resources to mitigate the situations. To help supplement emergency workers, citizen volunteer programs are available through the American Red Cross (San Diego Action Plan, SNAP), the Federal Emergency Management Agency (Citizen Emergency Response Teams, CERT), and the Office of Disaster Preparedness (Earthquake Survival Program, ESP) in San Diego.

All these programs focus on neighborhood groups trained for preparedness and self-sufficiency in the first few critical days following a disaster. These citizen groups would be trained by Bonita firefighters and part of the training would identify the potential risks specific for the Bonita area. First aid, light search and rescue, care/sheltering, damage assessment, and disaster psychology were a few of the areas in which citizens would be trained and able to help.

Discussion

The initial goal of this project was to write a disaster preparedness plan for Bonita Fire Department that addressed specifically disaster risks unique to the Bonita community. From the study of disaster manuals used by other fire agencies, and the comparison of the disaster preparedness manual used by Bonita Fire Department, it was determined that the disaster preparedness plan in place now cannot be added to or amended. The 12 disaster manuals received were roughly searched and investigated, plus interviews and telephone conversations were conducted with many professionals involved in disaster preparedness. The evaluation of the San Diego County ODP Disaster Preparedness Manual proved that it was superior by comparison to the other manuals received.

This study has benefited Bonita Fire Department through its resulting contacts with San Diego County ODP personnel. Through research into ODP operations, important contacts were made with Operation Officers Ralph Perry and Susan Asturias. They assisted in this research by allowing me access into the inner areas of ODP, the Emergency Operation Center (EOC), county disaster information, and supplying me with floppy disks of the complete San Diego County Disaster Manual. Bonita Fire Department is currently represented in a local, regional, and statewide disaster simulation exercise scheduled for November 17, 1998. As a result of meetings with Ralph Perry, and encouragement, information from this research project will be used by the disaster scenario writer to create a flood inundation problem caused by a failure of the Sweetwater Dam. This simulated disaster will involve Bonita Fire Department personnel and adjoining cities of Chula Vista and National City, the County of San Diego and its

EOC eventually reaching the state EOC at the Office of Emergency Services (OES) in Sacramento, California.

Recommendations

It is recommended that no changes or additions be made to the current disaster preparedness plan that Bonita Fire Department is using. It is suggested that a review class be given to all captains and acting captains in the Bonita Fire Department on the structure and format of the County of San Diego ODP Disaster Plan along with the Operational Site-Specific Dam Failure Evacuation Plan for the Sweetwater Dam.

(Appendix F) These 2 documents can be overwhelming upon first viewing. A systematical study under non-emergency conditions would be beneficial to all personnel involved with emergency disaster management responsibilities.

The neighborhood volunteer programs researched would be of great value and assistance not only to the fire department, but also to the community of Bonita. Bonita Fire Station has a community room that is used 4 times per month by civic-minded groups. Information supplied by Emergency Management Institute on the CERT program, the American Red Cross SNAP campaign can be presented for citizen review and implemented when enough interest is shown for a class. This would instill a new sense of community pride in a community that already is unique by the urban-rural location, a country setting in a beautiful river valley, surrounded on 3 sides by urban sprawl.

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Appendix A

Earthquakes M3.0 or Greater Near Bonita 1941 – 1996
(Kern, 1993)

DATE	MAGNITUDE	EPICENTER
9/14/1941	3.0	21 miles west of Bonita
1/1/1946	3.3	25 miles west of Bonita
6/24/1949	3.1	10 miles east of Bonita
4/20/1952	3.2	26 miles west of Bonita
4/20/1952	3.2	25 miles west of Bonita
6/11/1952	3.0	26 miles west of Bonita
6/12/1952	3.4	13 miles west of Bonita
12/20/1954	3.5	1 mile west of Bonita
2/9/1956	6.8	10 miles south of Bonita
1/14/1958	3.7	1 miles west of Bonita
11/13/1958	3.4	21 miles west of Bonita
11/23/1958	3.4	20 miles west of Bonita
8/3/1962	3.2	20 miles west of Bonita
6/10/1963	5.0	70 miles south of Bonita
6/21/1964	3.7	5 miles west of Bonita
6/22/1964	3.6	5 miles west of Bonita
7/14/1964	3.5	5 miles west of Bonita
12/22/1964	5.7	20 miles south of Bonita
5/2/1968	3.5	15 miles west of Bonita
4/9/1971	3.3	5 miles south of Bonita
4/14/1973	3.2	5 miles west of Bonita
6/29/1983	4.6	22 miles south of Bonita
6/17/1985	4.0	3 miles west of Bonita
7/13/1986	5.3	45 miles northwest of Bonita
7/13/1986	3.0	2 miles south of Bonita
1/15/1989	4.0	50 miles north of Bonita
4/4/1990	4.7	50 miles north of Bonita
12/3/1991	5.1	100 miles south of Bonita
2/18/1992	3.4	2 miles north of Bonita

Appendix B

UNIFIED SAN DIEGO COUNTY EMERGENCY SERVICES ORGANIZATION OPERATIONAL AREA EMERGENCY PLAN

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UNIFIED SAN DIEGO COUNTY EMERGENCY SERVICES ORGANIZATION OPERATIONAL AREA EMERGENCY PLAN

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UNIFIED SAN DIEGO COUNTY EMERGENCY SERVICES ORGANIZATION OPERATIONAL AREA EMERGENCY PLAN

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- D. Multi-Casualty Plan
- E. Public Health Operations
- F. Medical Examiner Operations
- G. Care and Shelter Operations
- H. Environmental Health
- I. Communications
- J. Construction and Engineering Operations
- K. Logistics
- L. Emergency Public Information
- M. Mental Health Operations
- N. Damage Assessment and Recovery
- O. Animal Control

Appendix C

Bonita Risk Assessment Table

	Could this disaster affect Bonita?	Is this disaster a possible threat to Bonita?	How many citizens would be seriously affected by this disaster?	How often does this disaster occur?
Natural Disaster				
Brush fires	yes	yes	20%	once in 30 years
Conflagration	yes	no	5%	once in 50 years
Dam failure (earthquake)	yes	yes	100%	Never
Dam failure (over spill)	yes	yes	75%	once in 70 years
Earthquake 5.0>	yes	yes	50%	every 15 years
Flood	yes	yes	100%	every other year
Hurricane/storms	no	no	100%	every 5 years
Ice storms	no	-	-	Never
Mudslides/erosion	yes	yes	40%	Yearly
Tornado	yes	yes	100%	Never
Tsunami	no	no	0	Never
Wind storms	yes	yes	100%	Yearly
Man-made Disaster				
Airliner crash	yes	yes	50%	Never
Brush fire	yes	yes	25%	every 4 years
Civil rioting	yes	no		Never
Dam failure (neglect)	yes	yes	70%	Never
Epidemic	yes	yes	unknown	Never
Haz-Mat (transportation)	yes	yes	depends on chemical	Never
Haz-Mat (fixed storage)	yes	yes	>5%	Never
Railway accident	no	-	-	Never
Acts of Terrorism				
- bomb targets	yes	yes	50%	once in 20 years
- nuclear	yes	no	100%	Never
- utility disruption	yes	yes	100%	Never
- water contamination	yes	yes	100%	1 time in 20 years

Appendix D

Disaster Identification Matrix

	1	,	
Possible Disasters	What is the possibility this disaster will occur in Bonita?	What is the best estimate of the total population that could be affected by this disaster?	
Earthquake	Unlikely ® possible likely	Number affected 12,000	
Flooding from Rains	Unlikely ® possible likely	Number affected 6,000	
Dam Failure	® unlikely possible likely	Number affected 10,000	
Haz-Mat Spill (Transportation)	Unlikely ® possible likely	Number affected 3,000	
Wind Storm	Unlikely possible ® likely	Number affected 4,000	
Hurricane/Rain Storm	Unlikely ® possible likely	Number affected 7,000	
Water Contamination	Unlikely ® possible likely	Number affected 40,000	
Nuclear Release	® unlikely possible likely	Number affected 100,000	
Bomb Target	® unlikely possible likely	Number affected 2,000	

Appendix E

Disaster Vulnerability Matrix

	Probab	ility of Oc	currence	Vı	ılnerability		Risk
DISASTER	Likely (3)	Possible (2)	Unlikely (1)	High (3)	Moderate (2)	Low (1)	Rating (probability x vulnerability
Earthquake	3				2		6
Flooding	3				2		6
Dam Failure			1	3			3
Haz-Mat Spill (Transportation)		2				1	2
Wind Storm	3					1	3
Hurricane			1		2		2
Water Contamination			1	3			3
Nuclear Release			1	3			3
Bomb Target			1			1	1

OPERATIONAL SITE-SPECIFIC DAM FAILURE EVACUATION DATE PLAN

SWEETWATER DAM

1. EVACUATION DATA

TYPE OF DAM: Mass Gravity CAPACITY: 27,700 Acre Feet

LOCATION: Thomas Bros pg. 1291 A-6

DOWNSTREAM DAMS: None

DAM OWNER: Sweetwater Authority

CONTACTS: WEEKDAYS AFTERHOURS

Al Sorensen, Ops. Mgr. 422-8395, ext. 602 See Section IV

Dick Reynolds, Gen. Mgr. 422-8395, ext. 601

Note: The facilities listed below comprise only a partial listing of institutions/agencies that may be impacted in the event of dam failure. It is the responsibility of each jurisdiction to notify all residents, schools, hospitals, businesses and all other facilities/individuals within the inundation area.

KEY FACILITIES AFFECTED: (govt. facilities, sewage plants,):

COUNTY OF SAN DIEGO, UNICORPORATED AREA:

- 1. Bonita-Sunnyside FPD Firestation #7, 4900 Bonita Road, Bonita, 479-8498 (TB 1310 J-2)
- 2. Post Office, 5073 Central Ave., Bonita, 475-4324 (TB 1310 J-2)

NATIONAL CITY:

- 3. Unified Port District 24th Street Marine Terminal, National City, 683-8963; [686-6345-24 hr. #]; (TB 1309 F-4)
- 4. National City Transit, National City, 474-7505 (TB 1309 H-3)

CHULA VISTA:

5. California Department of Motor Vehicles, 30 N. Glover Ave., Chula Vista (See Section IV. A. for confidential phone number.)

KEY FACILITIES AFFECTED: (govt. facilities, sewage plants) (continued)

UNIQUE INSTITUTIONS AFFECTED:

COUNTY OF SAN DIEGO, UNINCORPORATED AREA:

- 1. Sweetwater County Park, (TB 1291 A-6; 1310 D-5 thru F-4)
- 2. Summit Park, 3218 Summit Meadow Road, 472-7572 (TB 1291 A-7)
- 3. Bonita Golf Club, 5540 Sweetwater Road, 267-1103 (TB 1291 A-7)
- 4. Sunnyside Stock Farm, 5682 Sweetwater Road, Sunnyside 470-9775 (TB 1290 J-7)
- 5. Sunnyside Elementary School (576 students K-6), 5430 San Miguel Road, Bonita, 479-0571 (TB 1311 A-1)
- 6. Sweetwater Farms, 3051 Equitation Lane, Bonita, 267-7477 (TB 1310 D-4)
- 7. Bonita Golf Center, 3631 Bonita Road, Bonita (TB 1310 F-4)
- 8. Bonita Valley Baptist Church, 4701 Sweetwater Road, Bonita, 479-4155 (TB 1310 H-2)
- 9. The Montessori American School, 3604 Bonita Road, Bonita, 422- 1220 (TB 1310 F-4)
- 10. Villa Bonita Retirement Home, 3434 Bonita Road, Bonita, 476-9444 (TB 1310 E-4)
- 11. Bonita-Sunnyside Library, 5047 Central Ave, Bonita, 475-4642 (TB 1310 J-2)
- 12. KinderCare, 5136 Bonita Road, Bonita, 472-1796 (TB 1310 J-1)
- 13. Valley Vista Elementary School (654 students, K-6), 3724 Valley Vista Way, Bonita, 479-7171 (TB 1310 F-3)

NATIONAL CITY:

- 1. Sweetwater Plaza, 1629 Sweetwater Road, National City (TB 1310 B-3)
- 2. Sweetwater Town and Country Shopping Center, Sweetwater Rd. and Edgemere Ave., 1600-1700 Sweetwater Rd., National City (TB 1310 B-3)

UNIQUE INSTITUTIONS AFFECTED: (continued)

- 3. Plaza Bonita Shopping Center, 3131 Plaza Bonita Rd. National City 267-2850 Security Emergency: 475-9435 (TB 1310 D-4)
- 4. National City Golf Course, 1439 Sweetwater Rd., National City, 474-1400 (TB 1310 A/B-3)
- 5. Dixieline Lumber Co., 1400 W. 28th St., National City (TB 1310 A-3)
- 6. South Bay Market Place, 3400 Highland Ave., National City (TB 1310 A-4)
- 7. Acropolis Space Center, 3200 Highland Ave., National City, 474-8391 (TB 1310 A-4)
- National City Swap Meet, 3200 'D' Ave., National City, 477-2203 (TB 1309 J-4)
- 9. Harbor Drive-in, 3200 'D' Ave., National City, 477-1392 (TB 1309 J-4)
- 10. Southland Industrial Park, 100 W. 35th Street, National City (TB 1309 J-5)
- 11. Kimball School (481 students, K-6), 303 W. 18th Street, National City, 477-1129 (TB 1309 H-3)
- 12. National City Adult School (potential of 800 students/administrative personnel), 517 W. 24th Street, National City, 585-7818 (TB 1309 H-3)
- 13. San Diego Trolley, National City (TB 1309 H-3)
- 14. Dixieline Lumber's Truss Dept., 2740 Tidelands Avenue, National City, 477-3791 or 263-6161 (TB 1309 G-4)
- 15. Pepper Park, 3100 Tidelands Avenue, National City (TB 1309 G-5)

CHULA VISTA:

- Kaiser Bonita Medical Offices, 3955 Bonita Road, Chula Vista. Security, Mon-Fri: 476-2391; 24 hours Hospital Dispatch at Zion: 528-5396. (TB 1310 G-3)
- 2. Bonita Center, 4340 Bonita Rd., Chula Vista (TB 1310 G-3)
- 3. Bonita Village Center, 4034 Bonita Rd., Chula Vista (TB 1310 G-3)

UNIQUE INSTITUTIONS AFFECTED: (continued)

- 4. Chula Vista Golf Course, 4475 Bonita Rd., Chula Vista, 479-4141 (TB 1310 G-3)
- 5. Chula Vista Golf Course Club House, 267-7700 (TB 1310 H-3)
- 6. Rohr Park, 4548 Sweetwater Rd., Chula Vista (TB 1310 H-2)
- 7. Trousdale Industrial Complex, 300 Blk Trousdale Drive (TB 1310 A-4)
- 8. Sweetwater Park, 4370 Sweetwater Rd., (TB 1310 D-5/F-4)
- KOA Campgrounds (270 sites), 111 N. 2nd Ave., Chula Vista, 427-3601 (TB 1310 B-4)
- 10. Bonita Historical Museum, 4035 Bonita Rd., Chula Vista, 267-5141 (TB 1310 G-3)
- 11. Bonita Verde Estates, 3600 Bonita Verde Drive, Chula Vista (TB 1310 G-3)
- 12. Chula Vista Mobile Home Park, 345 'C' St., 422-5812 (TB 1310 C-4)
- 13. Target Store, 40 N. 4th Ave., Chula Vista, 691-5120 (TB 1310 A-5)
- 14. Eucalyptus Park, 20 4th Ave., Chula Vista, 691-5071 (TB 1310 A-5)
- 15. Chula Vista Nature Interpretive Center (visitors from 50 to 600 persons), 1000 Gun Powder Point Drive, Chula Vista, 422-2481 (TB 1309 H-6)

OTHER THREATENED AREAS IN THE INUNDATION ZONE:

Highways and Thoroughfares

OPEN/CLOSED FROM/TO

- a) Sweetwater Rd.
- b) Bonita Rd.
- c) North Second Ave.
- d) Trousdale Drive
- e) North Forth Ave.
- f) Highland Avenue
- g) National City Blvd.
- h) I-5, SoBayFwy @I-5 to E St.
- i) Trolley Tracks

OTHER THREATENED AREAS IN THE INUNDATION ZONE: (continued)

- j) Railway Tracks
- k) I-805, from north end of Plaza Blvd., South to 'H' Street

AFFECTED JURISDICTIONS:

- 1. County of San Diego (Unincorporated Bonita)
- 2. City of Chula Vista
- 3. City of National City

INUNDATION AREAS:

Failure of the dam would result in heavy flooding along the Sweetwater Riverbed westerly through portions of the Sunnyside area; Chula Vista Municipal Golf Course; Bonita area; south Lincoln Acres; the northern portion of the City of Chula Vista, and the southern portion of the City of National City. Severe damage or destruction can be expected to Bonita Road, Sweetwater Road, Interstate 5, the San Diego and Imperial Valley Railroad and the San Diego Trolley.

WARNING ACTIVATION:

Advise Sheriff's Office and Chula Vista and National City Police Departments to begin evacuation from upstream end, including unique institutions as indicated on the previous pages.

Method of notification will consist of public address and door-to-door notification, assisted by the media through public information releases.

TRAFFIC CONTROL POINTS for the Unincorporated Areas:

		Thomas	Responsible
No	o. Location	Bros.	Agency
1.	Sweetwater Road at Paradise Valley Rd.	1291 A-4	SDSO
2.	Quarry Road at Swap Meet Rd.	1291 A-4	SDSO
3.	San Miguel Rd. at Sunnyside School (Amadita Ln.)	1311 A-1	SDSO
4.	Central Avenue at Corral Canyon	1311 A-1	SDSO
5.	Acacia Avenue at Tim Street	1310 J-3	SDSO
6.	Palm Drive at Valle Verde	1310 J-3	SDSO
7.	Otay Lakes Road at Allen School Lane	1310 H-3	SDSO/CVPD
8.	Allen School Road at Loma Paseo	1310 G-4	SDSO/CVPD
9.	Vista San Miguel at Grevillea Way	1310 G-4	SDSO/CVPD

Appendix F-6

TRAFFIC CONTROL POINTS for the Unincorporated Areas: (continued)

	Thomas	Responsible
No. Location	Bros.	Agency
10. Briarwood Road at Robinwood Rd.	1290 H-7	SDSO
11. Barricade at Winnetka Dr. & Bram Ave.	1310 H-2	SDSO
12. Barricade at Orchard Hill & Cresta Verde Lane	1310 H-2	SDSO
13. Barricade at Bonita Woods Dr. & Bram Ave	1310 H-2	SDSO
14. Barricade at Evergreen Road	1310 G-2	SDSO
15. Barricade at Malito Drive	1310 F-2	SDSO
16. Barricade at Willow St. & Alameda Way	1310 F-3	SDSO
17. Person at Sweetwater Rd. & Valley Road	1310 F-3	SDSO
18. Barricade at Valley Vista Rd. & Mt. View Way	1310 E-4	SDSO
19. Barricade at Loma Drive & Windy Lane	1310 D-4	SDSO
20. Barricade at Bonita Mesa Rd. & Putter Drive	1310 D-4	SDSO
20. Barreade at Bointa Wesa Rd. & Lutter Brive	1310 D-4	SDSO
TRAFFIC CONTROL POINTS for National City:		
THE HATTE CONVINCE I ON VIOLENTIAL CROSS		
1. Sweetwater Road & Plaza Bonita Center Way	1310 E-3	NCPD
2. Reo Drive & Plaza Bonita Center Way	1310 E-3	NCPD
3. Sweetwater Road & Fairlomas	1310 D-3	NCPD
4. Stockman St. & Sweetwater Rd.	1310 D-3	NCPD
5. Valley Road & Sweetwater Rd.	1310 C-3	NCPD
6. Cypress Street & Sweetwater Rd.	1310 C-3	SDSO/NCPD
7. Orange Street & Sweetwater Rd.	1310 C-3	SDSO/NCPD
8. Olive Street & Sweetwater Rd.	1310 C-3	SDSO/NCPD
9. Ridgeway Drive & Euclid Ave.	1310 B-2	NCPD
10. Grove Street & Lincoln Ct.	1310 B-2	NCPD
11. 30 th & Prospect Street	1310 B-3	NCPD
12. 30^{th} & Grove Ave.	1310 B-3	NCPD
13. 30 th & 'M' Avenue	1310 A-3	NCPD
14. 30 th & 'L' Avenue	1310 A-3	NCPD
15. 30 th & Highland Avenue	1310 A-3	NCPD
16. 30 th & 'F' Street	1310 A-4	NCPD
17. 31 st & 'D' Avenue	1309 J-4	NCPD
18. 30 th & National City Blvd.	1309 J-4	NCPD
19. 30th & Transportation Avenue	1309 J-4	NCPD
20. 28 th & Transportation Avenue	1309 J-4	NCPD
21. 26 th & National City Blvd.	1309 J-3	NCPD
22. 24 th & 'A' Avenue	1309 J-3	NCPD
23. 22 nd Street & Roosevelt Avenue	1309 H-3	NCPD
24. 21 st Street & Roosevelt Avenue	1309 H-3	NCPD
25. 18 th Street & National City Blvd.	1309 H-2	NCPD
26. 16 th Street & Roosevelt Avenue	1309 H-2 1309 H-2	NCPD
27. 15 th Street & Hoover Avenue	1309 H-2 1309 H-2	NCPD NCPD
28. 14 th Street & Coolidge Avenue	1309 H-2 1309 H-2	NCPD NCPD
29. Civic Center Drive & Coolidge Avenue	1309 H-2 1309 H-2	NCPD NCPD
30. 8 th Street & Harbor Drive	1309 H-2 1309 G-2	NCPD NCPD
50. o Sueet & Haidul Dilve	1309 G-2	NCLD

Appendix F-7

TRAFFIC CONTROL POINTS for National City: (continued)

	Thomas	Responsible
No. Location	Bros.	Agency
31. Civic Center Drive & Harbor Drive	1309 G-2	NCPD
32. 18 th Street & Wilson Avenue	1309 H-3	NCPD
33. 18 th Street & Harding Avenue	1309 H-3	NCPD
34. 19 th Street & Coolidge Avenue	1309 H-3	NCPD
35. 20 th Street & Harding Avenue	1309 H-3	NCPD
36. 21 st Street & Harding Avenue	1309 H-3	NCPD
37. 22 nd Street & Wilson Avenue	1309 H-3	NCPD
38. 24 th Street & I-5	1309 H-3	NCPD
39. 30 th Street & Tideland Blvd.	1309 G-4	NCPD
40. 28 th Street & Guay Street	1309 G-4	NCPD
41. 28 th Street & Terminal Avenue	1309 G-4	NCPD
TRAFFIC CONTROL POINTS for Chula Vista:		
1. Palm Drive at Valle Verde Street	1310 J-3	SDSO/CVPD
2. Otay Lakes Road at Allen School Lane	1310 H-3	SDSO/CVPD
3. Allen School Lane at Loma Paseo	1310 G-4	SDSO/CVPD
4. I-805, SoBayFwy at 'H' Street	1310 E-6	CVPD
5. Hilltop Drive at Pepper Tree Road	1310 D-6	CVPD
6. Bonita Road (S17) at First Street	1310 C-5	CVPD
7. 2 nd Avenue at 'D' Street	1310 B-5	CVPD
8. 3 rd Avenue at 'D' Street	1310 B-5	CVPD
9. 4 th Avenue at 'D' Street	1310 A-5	CVPD
10. 5 th Avenue at 'D' Street	1310 A-5	CVPD
11. Broadway Avenue at 'D' Street	1309 J-5	CVPD
12. I-5 at 'E' Street	1309 J-6	CVPD

EVACUATION ROUTES:

Jurisdiction: County of San Diego

No.	Location	Thomas Bros.
1.	Sweetwater Road at Paradise Valley Road;	1291 A-4
	Northbound on Sweetwater Rd.;	
	Westbound on Paradise Valley Rd.	
2.	Northbound on Quarry Rd. at Sweetwater Rd.	1290 J-6
3.	Northbound on Swap Meet Road	1291 A-4
4.	Northbound on Briarwood at SoBayFwy (SR 54)	1290 H-7
	East on SoBayFwy; North on Worthington Street;	
	North to Paradise Valley Road	
5.	SR 54 between Reo Drive and Woodman Street:	
	SR 54 West to Reo and then North	1310 D-3

EVACUATION ROUTES: (continued)

Jurisdiction: County of San Diego

No.	Location	Thomas Bros.
	For those south of SR 54, take Plaza Bonita Center Way north to Reo Drive.	1310 E-3
6.	East on San Miguel Rd. at Amadita Lane to Proctor Valley Road south	1311 A-1
7.	Southeast on Corral Canyon Road, just south of Central Avenue	1311 A-2
8.	Siembre Street – shelter in place	1310 J-1
Jurisa	liction: City of Chula Vista	
No.	Location	Thomas Bros.
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11.	South on I-805 at 'H' Street South on I-805 at 'H' Street South on Hilltop Drive at 'F' Street South on Bonita Glen Drive to Vista Drive, south Westbound on Bonita Road (S17) at 1 st Avenue Westbound on E. Flower Street; southbound on 1 st Ave. South on 2 nd Avenue from 'D' Street South on 3 rd Avenue from 'D' Street West on 'D' Street to Broadway South on 4 th Avenue, 5 th Avenue and Broadway South on I-5 City of National City	1310 H-3 1310 E-6 1310 D-5 1310 D-5 1310 C-5 1310 B-5 1310 B-5 1310 B-5 1310 A-6 1309 J-6
No.	Location	Thomas Bros.
1. 2. 3. 4. 5. 6. 7. 8.	Northbound on Reo Drive Eastbound on Valley Road Northbound on Euclid Avenue Northbound on 'L' Street Northbound on Highland Avenue Northbound on National City Blvd. From 16 th Street Northbound or eastbound on 8 th Street from Harbor Drive Evacuate by boat: between 8 th St. & 30 th St.; west of I-5	1310 D-3 1310 F-3 1310 B-3 1310 A-3 1310 A-3 1309 H-2 1309 G-2 1309 G-2 thru 4

POTENTIAL MASS CARE CENTERS

	Facility	Capacity
	NOTE: Need for activation of Mass Care Centers will be a by local jurisdictions and as designated by the Amer	
1.	Granger Jr. High School. 2101 Granger Ave., National City, (TB 1310 C-2)	903
2.	Sweetwater High School, 2900 Highland Avenue, National City, 691-5730 (TB 1310 A-3)	1955
3.	Bonita Vista High School. 751 Otay Lakes Road, Chula Vista 691-5750 (TB 1311 C-5)	2185
4.	Hilltop High School, 555 Claire Avenue, Chula Vista, 691-5640 (TB 1310 E-6)	1656
	INITIAL COMMAND POSTS:	
1.	National City Fire Station #10, 333 E. 16 th St., National City, 336-42	75 (TB 1309 J-2)
2.	National City Police Dept. EOC, National City Blvd., National City, 3 1309 H-2)	36-4411 (TB
3.	National City City Hall, 1243 National City Blvd., National City, 336-4H-2)	4411 (TB 1309
4.	Bonita Vista Middle School, 650 Otay Lakes Road, Chula Vista, 691-B-5)	5690 (TB 1311
5.	Chula Vista Police Dept. EOC, 276 4 th Avenue, Chula Vista, 691-515	51 (TB 1310 B-
6.	Operational Area EOC, 5555 Overland Avenue, San Diego, 565-349	0 (TB 1229 D-7)
	POTENTIAL STAGING AREAS:	
1.	Spring Valley County Park, Jamacha Blvd., and Gillespie Drive, La Pr A-4)	esa (TB 1291

2. National Guard Armory, 303 Palm Avenue (Palm & 4th), National City, 477-2181

(TB 1289 J-7)

POTENTIAL STAGING AREAS: (continued)

- 3. Las Palmas Park, 20th and Newell Street, National City (TB 1310 B-2)
- 4. Southwestern Community College, 900 Otay Lakes Road, Chula Vista, 421-6700 (TB 1311 C-6)
- 5. South County Animal Shelter, 5821 Sweetwater Road, Bonita, 263-7742 (TB 1290 J-6)

II. EVENTS AND EMERGENCY STATUS

There are three events that place the community on a corresponding level of emergency status.

EVENT		<u>STATUS</u>
A.	Case 'A', Failure is imminent or has occurred.	Warning and Evacuation
B.	Case 'B', Potentially hazardous situation developing.	Precautionary Alert or Watch to prepare to evacuate inundation area.
C.	Confirm report of NO FAILURE verifying dam safety	Cancellation of Alert and/or Warning

III. ACTIONS

A. CASE 'A' EVENT: Report from Sheriff, dam owner/keeper, Public Works or other responsible authority indicates that DAM FAILURE IS IMMINENT OR HAS OCCURRED.

ODP ACTIONS:

- 1. Activate Operational Area Emergency Operations Center (EOC).
- Coordinate information with Sheriff's Office and Police Departments for the cities of National City and Chula Vista, concerning evacuation from upstream end, including institutions as indicated on previous pages.

ODP ACTIONS: CASE 'A' EVENT (continued)

- 3. Alert American Red Cross to the need for activating Mass Care Centers.
- 4. Notify County Public Works
- Broadcast Emergency Alert System (EAS) and LIFE evacuation notices indicating areas of inundation and location of Mass Care Centers. (Check with Sweetwater Authority for pre-scripted messages.)
- 6. Activate RACES and ARES for Command Posts and Mass Care Center information.
- 7. Monitor situations and assess damages, casualties and number of homeless.
- 8. Coordinate mutual aid, as necessary.
- 9. Keep State OES informed of situation.
- 10. Assist in re-entry, recovery operations and planning with other agencies as requested.
- SHERIFF: Assist National City Police Department and Chula Vista Police Department and California Highway Patrol (CHP) in providing security, traffic control, evacuation and search/rescue operations in incorporated areas and direct activities in contract cities and unincorporated areas. Police Departments are responsible for ensuring transportation for the disabled, the elderly and persons without vehicles.
- B. <u>CASE 'B' EVENT</u>: POTENTIALLY HAZARDOUS SITUATION IS DEVELOPING; Occurrence of seismic activity or other phenomena in the vicinity of the dam or an unconfirmed report of impending dam failure. Upon receipt of such a report by any responsible agent or agency, immediately notify ODP. ODP will notify the following:

<u>CONTACT</u> <u>MESSAGE</u>

Dam Keeper/Owner Request assessment of dam condition

CASE 'B' EVENT: (continued)

<u>CONTACT</u> <u>MESSAGE</u>

Sheriff/Cities of Chula Vista Precautionary alert to prepare to

and National City evacuate inundation area. Condition

of the dam, evacuation time frame and location of evacuation centers

will be provided later.

State OES So. Region Duty Report situation. Request

Officer assistance when necessary.

American Red Cross Alert to the possibility of activating

Mass Care Centers.

State Dam Inspection Team Dam inspection may be required.

IV. PROCEDURES AND RESPONSIBILITIES

The Office of Disaster Preparedness (ODP) is responsible for alerting affected jurisdictions, notifying local, regional and state authorities, and coordinating multi-agency response activity.

A. ALERTS AND WARNINGS

 In responding to Case 'A' and 'B' Events, precautionary alerts are made by telephone to the affected jurisdictions. *Numbers below* are confidential and are not to be given out to the public:

Dam Emergency Contact: 420-1230

Dam Owner: Sweetwater Authority 420-1413 (rings: filter plant)

Al Sorensen, Operations Manager 884-0070 (cellular)

Steve Parker at Loveland Dam 992-7898

Dennis Bostad, Dir. of Water Quality 979-2723 (cellular)

Chula Vista Police 691-5151
National City Police 336-4411
Sheriff/Watch Commander 565-5025
ASTREA (Aerial Situation Report) 448-2068
Station X 565-5255
California Highway Patrol (CHP) 467-3333/3300

CALTRANS 467-3090 or CHP # San Diego Trolley (Main Control #) 595-4960

SD & Imperial Valley Railroad (daytime) 239-7348 (SD Trolley/24hr#)

ALERTS AND WARNINGS (continued)

Santa Fe Railroad 544-0611 (yard)

David Gunther, Safety (800) 759-8888/160-0754

National City Transit 474-7505 Louis Fernandez, pager # 686-0616 Noe Valdez, pager # 293-9596

National City Adult School Head Custodian

Juan Enriguez, home: 662-9270 525-0790 (pager)

American Red Cross 291-2620 or SD Fire Dispatch

County Animal Control 236-4248 DMV, Chula Vista, Supervisor 469-9790

KOA Campgrounds 621-6761 (24 hours) OES Southern Region (562) 795-2900

State Warning Service (916) 262-1621 (24 hours)

National Weather Service 675-8705

SDG&E – Bus. Hours: 696-4292; 24 hours: 526-9555, leave message;

SDG&E calls back within approximately 20 minutes Dam Safety Inspection Team: During working hours:

Vern Persson, Division of Safety of Dams (916) 445-7606

After hours: a. Michael Waggoner (916) 689-7232 (Area Engineer)

b. Richard Sanchez (916) 489-1660 (Regional Engineer)

If neither of the above Engineers can be reached, call the CHP at (916) 445-2895; they have an expanded list of contacts if Michael or Richard are not available.

- 2. Responding to Case 'A' Event involves activation of the Unified San Diego County Emergency Services Organization Operational Area Emergency Plan, (USDCESOOAEP) [see checklists for Imminent and Actual Dam Failure]. In addition to the preliminary alerts made, ODP will broadcast warnings via the LIFE alert system and possibly the Emergency Alert System (EAS). The Emergency Operations Center (EOC) for the affected cities and the county will probably be activated. For further information on multi-agency coordination, Mass Care Centers and evacuation procedures, see the Operational Area Emergency Plan, 1996.
- 3. Event 'C', cancellation of Alerts and Warnings, is done by the same method as the original alert or warning, i.e., telephone, LIFE, and/or EAS.

B. SITUATION ANALYSIS AND PRELIMINARY HAZARD/DAMAGE REPORT

- 1. As soon as possible, an analysis of the dam status is done by the following agencies:
 - a. The Sweetwater Authority will make an immediate visual inspection of the dam.
 - b. Sheriff's patrol units and ASTREA helicopter will make a ground and aerial survey of the dam and inundation area.
 - c. The Cities of Chula Vista and National City will make a ground survey of the inundation path within their respective city boundaries.

If there is no visual damage or sign or failure, the precautionary alert is left in effect until the dam surveillance inspection is completed (within 24 hours). If the inspection team findings are negative, then the precautionary alert is canceled. If the inspection team requests an inspection by the State Dam Inspection Team, the precautionary alert remains in effect until the State Inspection Team declares the dam safe.

However, if the preliminary visual inspection confirms damage, and/or impending or actual failure, then the alert becomes a warning.

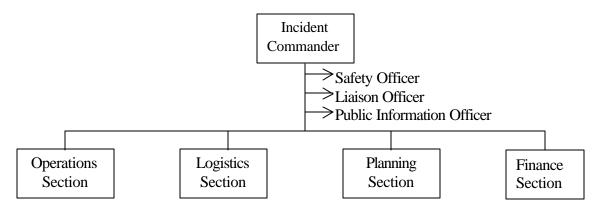
2. The ODP coordinates the Situation Reports and the Hazard/Damage Assessment information with the affected agencies as listed under Section IV A, Alerts and Warnings.

C. EVACUATIONS

- Evacuation is coordinated by the law enforcement agencies involved. CHP assists all agencies with routing and traffic control. For detailed information on evacuation procedures for the county area, see Annex C, San Diego County Operational Area Emergency Plan.
- 2. Evacuation warning and routing information is coordinated by the ODP via the LIFE radio system, ASTREA helicopter announcement and EAS.

Appendix G

Basic Incident Command Systems (ICS) Format



Standardized Emergency Management System (SEMS) Format

